

**CITY OF STERLING
POLICE PENSION FUND**

**ACTUARIAL VALUATION
AS OF MAY 1, 2010 FOR THE
FISCAL YEAR ENDING APRIL 30, 2011**

November 18, 2010

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Tepfer Consulting Group, Ltd. was retained by the **City of Sterling and the City of Sterling Police Pension Fund** to perform an independent actuarial valuation for the Police Pension Fund. This valuation is permitted under 40 ILCS 5/22, Section 503.2.

The actuarial valuation was performed for the year ended April 30, 2011 and indicates a **statutorily required contribution in accordance with 40 ILCS 5/3, Section 125 of \$425,972 or 25.08% of member payroll, a recommended minimum contribution of \$538,812 or 31.72% of payroll, and an Annual Required Contribution in accordance with paragraph 36f of Statement No. 25 of the Governmental Accounting Standards Board of \$371,860 or 21.89% of payroll.** These contributions are net of contributions made by active member police officers during the fiscal year.


The results shown in this report have been calculated under the supervision of a qualified Actuary as defined in appropriate State statutes. All results are based upon demographic data submitted by the Police Pension Fund, financial data submitted by the Police Pension Fund, applications of actuarial assumptions, and generally accepted actuarial methods.

In our opinion, all calculations and procedures are in conformity with generally accepted actuarial principles and practices; and the results presented comply with the requirements of the applicable State statute, Actuarial Standards Board, or Statements of Governmental Accounting Standards, as applicable.

In our opinion, the actuarial assumptions used are reasonable, taking into account the experience of the plan and future expectations, and represent a reasonable and adequate approach to the financing of the retirement program. The costs, actuarial liabilities and other information presented in this report, in our opinion, fully and fairly disclose the actuarial position of the plan.

I, Arthur H. Tepfer, am the President of Tepfer Consulting Group, Ltd. I am a member of the American Academy of Actuaries and I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. I certify that the results presented in this report are accurate and correct to the best of my knowledge.

TEPFER CONSULTING GROUP, LTD.


Arthur H. Tepfer, A.S.A., M.A.A.A.
Enrolled Actuary #08-02352

November 18, 2010

VALUATION OBJECTIVES

The **City of Sterling Police Pension Fund** provides benefits to members when they retire, die, become disabled or terminate employment. As with any plan providing these types of benefits, an appropriate budgeting pattern must be established to enable appropriate funds to be accumulated to meet all payments when due. The actual cost of the plan can best be expressed in the following simplistic manner:

ACTUAL COST EQUALS

Benefits Paid

Plus

Expenses Paid

Less

Investment Income Earned

If the actual cost is incurred on a "pay as you go" basis, then the future generations of members will be paying for the benefits of current plan participants. Proper financial planning calls for budgeting the actual cost of the plan over the working lifetime of current plan membership in order to establish an equitable allocation. An actuarial valuation is the procedure used to determine an appropriate amount to be contributed to the pension plan each year in order to attain this equity.

An actuarial valuation is an estimate at a particular point in time of the predicted incidence of the future benefit costs. Since the actual cost of the plan is essentially unknown, pre-funding (budgeting for future benefit costs) requires certain assumptions about future events. Assumptions are made for such things as salary increases, terminations of participants, disablement of participants, death of participants and anticipated investment earnings. These assumptions although not affecting the actual costs of the plan will affect the incidence of predicted future costs. For proper funding, it is required that the Actuary select assumptions which are appropriate in light of the economic, demographic, and legislative environment as they relate to the pension program. The assumptions we have made concerning these future events are described more fully in Appendix 2 of this report. Based on these assumptions, a projection of future benefits was made and a current contribution level sufficient to provide the anticipated benefit payments was determined through the use of an actuarial cost method.

VALUATION OBJECTIVES (Continued)

The actuarial cost method selected to determine plan contributions is the Entry Age Normal Cost Method. Under this actuarial cost method, ideally, the ongoing cost as a percentage of total payroll should remain fairly stable. The actuarial valuation process is usually repeated each year and is to a certain extent self-correcting. As part of this actuarial cost method, any deviation of actual experience from the chosen actuarial assumptions will be reflected in future contributions. A complete description of this actuarial cost method is explained in Appendix 4 of this report.

In this method, the normal cost is determined by assuming each member covered by the plan entered the plan under the same conditions that will apply to future plan entrants. The annual normal cost assigned to each year of an employee's career is calculated as a level percentage of his assumed earnings each year. These normal costs accumulate to the present value of the employee's benefit at his retirement age.

Under the Entry Age Normal Cost Method, the total funding of projected benefit costs is allocated between an unfunded liability, representing past benefit history, and future normal costs. This allocation is based on the assumption that the municipality will pay the normal cost for each plan year on a regular basis. Another feature of this method is that only the unfunded liability is affected by the experience of the plan, and therefore any adjustments are made in the future amortization payments.

Appendix 3 of this report contains a summary of the principal provisions of the applicable statute.

Comments on Recommended Minimum Contribution Level

Effective July 1, 1993, there were two changes to the State statute governing the determination of the required contribution to the Police Pension Fund. First, the **period** over which the amortization of any unfunded accrued liabilities is payable was extended 13 years from the year 2020 to the year 2033. Second, the method for determination of the **amount** of amortization payment was changed from a level dollar amount to an amount which will vary in dollars, but is expected to remain a level percentage of payroll. Effectively, these changes dramatically modify the funding pattern originally established and used since 1980 for plans covered under the statute. **On August 5, 1995, the Circuit Court of Cook County declared the changes in the State Statute to be unconstitutional.** On October 18, 1996, the Illinois Supreme Court reversed the Circuit Court decision and remanded the case back to the Court for a full hearing on the issues. The Circuit Court ultimately found the changes to be constitutionally acceptable.

VALUATION OBJECTIVES (Continued)

Despite the statutory language which may require an application of this liberalized approach, we feel that funding under the new method severely undermines the benefit security of the retirement system and transfers the payment for currently earned pensions to future generations of taxpayers. For these reasons, our valuation report presents a recommended minimum contribution which will operate to maintain the fundamental fiscal soundness of the retirement program, although a statutorily required contribution has also been calculated. The calculation of the recommended minimum contribution is based upon an amortization payment of any unfunded accrued liabilities as a level dollar amount over 40 years from July 1, 1993, the effective date of P.A. 87-1265. The calculation of the statutorily required contribution is based upon an amortization payment of any unfunded accrued liabilities as a level percentage of payroll over 40 years from July 1, 1993, the effective date of P.L. 87-1265.

Although, I sincerely do not agree with the method of determining the amortization of the unfunded accrued liability under the "new method" (I cannot and will not condone the calculation of the payment as a level percentage of payroll); nonetheless, I would be remiss if I did not advise my funds as to a "statutory" acceptable calculation under the State law. ***I patently consider the calculation to be actuarially unsound for funding of municipal retirement programs.***

Effective for periods beginning after June 15, 1996, the Governmental Accounting Standards Board has issued Statement No. 25 "Financial Reporting for Defined Benefit Pension Plans and Note Disclosures for Defined Contribution Plans". This Statement establishes a financial reporting framework for defined benefit pension plans that distinguishes between two categories of information: (a) current financial information about plan assets and financial activities and (b) actuarially determined information, from a long-term perspective, about the funded status of the plan and the progress being made in accumulating sufficient assets to pay benefits when due. The calculation of the Annual Required Contribution (ARC) is described in paragraph 36f of the Statement and is based upon an amortization payment of any unfunded accrued liabilities as either a level dollar amount or a level percentage of total payroll over a maximum of 40 years from the effective date of the Statement. Any significant increase in the total unfunded actuarial liability resulting from a change in actuarial methodology should be amortized over a period not less than 10 years.

Actuarial experience since the last actuarial valuation

As part of the actuarial valuation process, it is helpful to examine the actual experience of the fund as compared to the experience which is expected by the actuarial assumptions. The measurement of any deviations of actual to expected experience is commonly referred to as a "Gain and Loss Analysis". In performing this analysis, the actuary analyzes each actuarial assumption used in the valuation process. It is highly unlikely that actual experience will follow expected experience on a year-by-year basis. It is hoped that over the long term, if the actuarial assumptions are "reasonable", the total gains and losses will offset each other.

VALUATION OBJECTIVES (Continued)

A “gain and loss analysis” is a useful tool to examine whether the actuarial assumptions used to determine the municipal tax levy are suitable. Care must be taken in placing too much credibility in a short-term analysis as the assumptions are more appropriately measured over the long term. Nonetheless, an annual evaluation of the actuarial assumptions will assist in identifying trends which, if unnoticed, can lead to inappropriate conclusions. When these trends are recognized, it is the actuary’s responsibility to modify one or more of the assumptions to better anticipate future experience.

Some assumptions are easier to measure than others. In small plans, credible analysis can generally be made regarding the economic (financial) assumptions. These primarily include investment and salary increase assumptions. Unfortunately, it is often impossible to establish credible long term analysis of demographic assumptions (rates of termination, disability, retirement and mortality). Therefore, in choosing demographic assumptions, the actuary generally relies upon standardized tabular assumptions modified only by fund-specific characteristics.

The actuarial gain and loss analysis for the current year is presented in Exhibit 3-C and 3-D of the report. Exhibit 3-C shows the impact of the actuarial gains or losses on the statutorily required contribution through a reconciliation of this contribution from the end of the prior valuation year to the end of the current valuation year. Exhibit 3-D derives the actuarial gain or loss in total as well as separating the individual financial and demographic components.

The overall experience gain (loss) for the year was \$ (123,208) or 0.80% of the accrued liability at the beginning of the plan year. The dollar amount for the plan’s current statutorily required contribution is 89.28% of the prior year’s contribution. When measured as a percentage of payroll, the contribution level has changed from 28.10% to 25.08%.

Factors Influencing the Choice of Actuarial Assumptions

As part of the consulting process, it is our policy to talk with selected members of the Board of Trustees for the **City of Sterling Police Pension Fund** in order to obtain information which will enable the Actuary to properly choose the actuarial assumptions which are most appropriate for the current cost determination for the pension fund.

VALUATION OBJECTIVES (Continued)

Prior to the meeting, statistics are compiled concerning historical investment returns, salary increases, retirement incidence and other factors which are influential in the actuarial assumption setting process. Based upon an analysis of the specifics as they relate to the **City of Sterling Police Pension Fund** and a general understanding of the inter-relationships of the actuarial assumptions, the Board and the Actuary reach a mutual agreement as to the assumptions which will be used in the current actuarial valuation.

Published statistics regarding experience for police and firefighters are available from the State of Illinois Department of Insurance. These statistics form the basis of the actuarial assumptions selected by the State Actuary in the valuation of pension funds covered under the Downstate Pension System. We have found in our consulting, that whenever appropriate, the actuarial assumptions used by the State Actuary are relied upon as a starting point. However, in order to make the calculations more "***Sterling-sensitive***", the analysis of the actual historical performance is carefully examined.

Experience Analysis

The results of our experience analysis indicate that the fund has experienced a small actuarial loss primarily from demographic sources which has been offset by a small actuarial gain from financial sources. This indicates that the actuarial assumptions remain appropriate for this fund.

Demographic considerations

For this valuation, it was noted that the force and the pension fund continues to remain stable as to its size and demographic composition. It was observed that the number of inactive participants (excluding participants who have terminated service with only a refund of contributions) as compared to active participants in the Fund is acceptable and well below the State average (approximately 42% of the total participants are inactive as compared to 41% in the last valuation). Measured on a liability basis the Fund is exactly at the State averages. Approximately 52% of the Fund's total liability is attributed to inactive participants compared to a State average of about 53%. These measurements indicate a demographically stable fund which is in a substantially stronger condition than the average fund in the State. The average age and service of the active participating group however, is slightly below the State average

However, there are currently 6 officers who is eligible to retire and only 2 officers who will become eligible in the next 5 years. This represents over 25% of the current active group. Pension payments are now generally fixed and overall financial planning can be achieved. Absent a large growth in the active force, with proper funding, the fund's position should remain relatively stable for the foreseeable future.

As would be expected in this situation, a moderate portion of the assets available for investment (**76%**) has been committed to provide benefits for existing pensioners and beneficiaries. Essentially then, 76% of the assets in the plan are already dedicated to cover the liabilities for the currently retired participants. This is a very acceptable situation given the strong funding levels. As indicated earlier, the average age and service of the active participating group is less than the State average, As indicated earlier, the average age and service of the active participating group is less than the State average, but the pension rolls keep growing and liabilities continue to

VALUATION OBJECTIVES (Continued)

increase. We will monitor closely the retirement patterns which emerge in later years to assure that the appropriate retirement rates are in place for our analysis.

The demographic actuarial assumptions used for this valuation represent no change from those used in the prior valuation performed by our firm. These include, as a result of the publication of a recent independent study analyzing demographic experience among police and fire pension funds in the Downstate System, changes in the retirement, disability and withdrawal assumptions, as well as the use of a more modern mortality table from those used by the State Actuary.

Financial considerations

In these uncertain times the fund continues to experience short-term investment growth as can be noted in the charts in Section 5B and 5C of this valuation. Furthermore, the fund continues to maintain marginally adequate funded ratios.

The rate of return during the 2010 year was 16.54%. The fund continues to generally earn acceptable rates of return over the short term. As shown in Exhibit 5-C of our report, the composite rate of return for the fund since 2001 is 3.56%. However, if we eliminate the 2009 investment loss, then the rate of return increases to 5.60%. The rate of return since 1988 is almost 6.5%. Comparative salary increases and the greater than average rates of investment return over the past years indicate that the general financial assumptions used by the State actuary continue to be inappropriate for this Fund.

During the past fiscal year, there was an adequate municipal contribution which has served the funding well. Contributions to this fund remain below our calculated statutory minimum and recommended levels. The funding percentage decreased from 76.6% last year to 76.3% this year strictly because of the retirement and lack of the full contribution.

Based upon the comparative rate of funding (approximately 76%) as well as a comparison of actual rates of investment return to salary increases, we have determined that a continuation of the assumed investment return rate remains acceptable as a long-term assumption to be used in determining the funding requirements for the year May 1, 2010 to April 30, 2011.

For this valuation, an interest rate of 7¾% was chosen to reflect the portfolio composition, investment philosophy and historical performance as compared to other funds in the State. This rate includes an inflation component of 2½%.

Furthermore, as a result of a recent study performed by our firm, we are continuing the actuarial assumption with regard to salary increases for active participants to a table which is more representative of increases in the Downstate system. The results of this study indicate that salaries increase more rapidly in the earlier years of employment and level off in the later years. The prior assumption anticipated a constant annual increase in salaries and we believe that in our current environment and in analyzing the actual salary growth of the participants, this approach is inappropriate. Consistent with the investment assumption, these tabular rates include an inflation component of 2½%.

**VALUATION OBJECTIVES
(Continued)**

In an effort to continue our generalized approach to provide a smooth contribution pattern of funding, we have modified our calculations of the statutory minimum contribution by implementing a 4½% static payroll growth assumption, rather than a dynamic assumption based upon actual experience each year. This change in methodology will produce a more stable and manageable contribution throughout the life of the program.

The financial assumptions, including the continued use of the actuarial value of assets instead of market value indicate no change from the prior year.

Comparison with Other Funds

We are including a comparison to certain State averages which may prove helpful in assessing how the fund compares to similarly situated programs.

	<u>Sterling(2010)</u>	<u>State*</u>
Funded Ratio	76.31%	56.18%
Percentage of Liability for Inactives	52.36%	52.55%
Percentage of Total Assets for Inactives (market basis)	75.64%	93.52%

* Based upon published reports for FYE 2008

Examination should be focused on the funding progress contained in Exhibit 2 of our report.

Thirty-year Payout Projections

Exhibit 5D presents an illustration of projected payments from the Trust Fund for a 30-year period commencing with the valuation date. These projections are based upon the actuarial assumptions selected for the fund concerning death, disability and retirement actually occurring. Care should be taken in interpreting or relying on these results-- particularly for Funds with fewer than 50 participants. The credibility of this type of projection is rarely realized beyond 10 years.

RESULTS OF VALUATION

The following exhibits present the results of our actuarial valuation of the **City of Sterling Police Pension Fund** for the fiscal year May 1, 2010 through April 30, 2011.

Exhibit 1 indicates that the recommended minimum contribution from the City is \$538,812 or 31.72% of total participating payroll. Under the actuarial cost method selected, this percentage of payroll should remain reasonably level over the lifetime of the plan.

Exhibits 2 and 3 provide specific information used to develop the recommended minimum and statutorily required City contribution.

Exhibit 4 presents a brief description of the demographic characteristics of the current member group.

Exhibit 5 shows information relating to the pension assets.

Appendix 1 provides information in accordance with the Governmental Accounting Standards Board relating to financial disclosure of pension costs in the auditor's report.

**GENERAL VALUATION RESULTS FOR FISCAL YEAR
MAY 1, 2010 THROUGH APRIL 30, 2011**

1.	Entry Age Normal Cost:	\$ 332,350
2.	Unfunded Actuarial Accrued Liability (or Surplus):	3,627,681
3.	Actuarial Value of Assets:	11,682,418
4.	Annual Salaries of Active Police Officers:	1,625,368
5.	Recommended Minimum Contribution from the City:	538,812
	Contribution Percentage:	31.72%*

* Projected for the fiscal year ending April 30, 2011.

SUMMARY OF SPECIFIC VALUATION RESULTS

	<u>Number</u>	<u>Actuarial Present Value of Projected Benefits</u>	<u>Entry Age Normal Cost</u>
1. Active Police Officers:	30		
Retirement Pension:		\$8,606,026	\$227,853
Survivors Pension:		261,894	13,771
Disability Pension:		982,803	59,437
Withdrawal Pension:		304,888	31,289
	<hr/>	<hr/>	<hr/>
TOTAL	30	\$10,155,611	\$332,350
2. Inactive Police Officers and Survivors:			
Normal Retirees:	17	\$7,308,486	
Alternate Payees:	0	0	
Widows (Survivors):	5	707,178	
Children (Survivors):	0	0	
Disabled Retirees:	0	0	
Deferred Vested:	0	0	
Terminated/Separated:	<u>0</u>	<u>0</u>	
TOTAL	22	\$8,015,664	

**SUMMARY OF SPECIFIC VALUATION RESULTS
(Continued)**

3.	Total Actuarial Present Value of Projected Benefits:	\$18,171,275
4.	Actuarial Present Value of Future Normal Costs:	2,861,176
5.	Entry Age Accrued Liability: [(3) - (4)]	15,310,099
6.	Actuarial Value of Assets:	11,682,418
7.	Unfunded Actuarial Accrued Liability (or Surplus): [(5) - (6)]	3,627,681
8.	Funded Ratio Percentage: [(6) ÷ (5)] x 100	76.31%

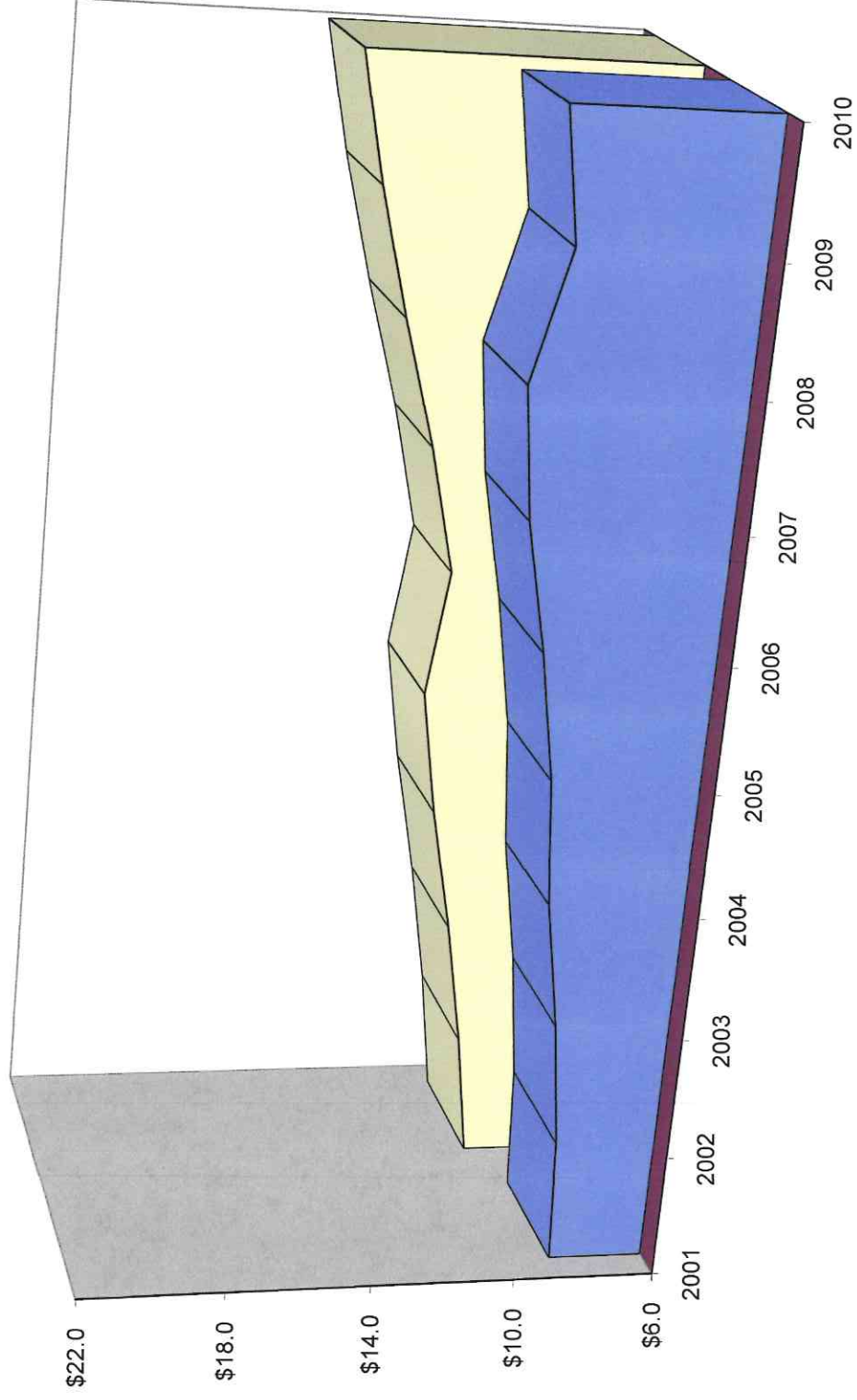
HISTORY OF FUNDED PERCENTAGES

<u>For the Year beginning May 1</u>	<u>Valuation Assets</u>	<u>Accrued Liabilities</u>	<u>Funded Percentage</u>
2010	\$11,682,418	\$15,310,099	76.31%
2009	11,113,057	14,499,049	76.65%
2008	11,967,931	13,519,812	88.52%
2007	11,537,623	12,432,905	92.80%
2006	10,778,895	11,544,004	93.37%
2005	10,159,721	11,967,912	84.89%
2004	9,832,522	11,342,940	86.68%
2003	9,248,119	10,561,600	87.56%
2002	8,834,759	9,901,011	89.23%
2001	8,652,557	9,383,686	92.21%

The chart on the following page presents a progression of these percentages in graphical form.

COMPARISON OF ASSETS AND LIABILITIES
(amount in millions)

■ Valuation Assets □ Accrued Liabilities



DEVELOPMENT OF RECOMMENDED MINIMUM CITY CONTRIBUTION

	Fiscal Year May 1, 2010 through <u>April 30, 2011</u>
1. Entry Age Normal Cost:	\$332,350
2. Recommended Minimum Payment to Amortize Unfunded Accrued Liability <u>as a level dollar amount</u> over 23.16769 Years from May 1, 2010:	317,196
3. Interest on (1) and (2):	50,340
4. Credit for Surplus:	0
5. Total Recommended Minimum Contribution for Fiscal Year 2011: [(1) + (2) + (3) + (4)]	699,886
6. Active Member Contributions (9.91% of Salaries):	161,074
7. Net Recommended Minimum City Contribution: [(5) - (6)]	538,812

DEVELOPMENT OF STATUTORILY REQUIRED CITY CONTRIBUTION
(NOTE THAT THIS CONTRIBUTION CALCULATION IS NOT RECOMMENDED)

	Fiscal Year May 1, 2010 through <u>April 30, 2011</u>
1. Entry Age Normal Cost:	\$332,350
2. Minimum Payment to Amortize Unfunded Accrued Liability <u>as a level percentage of payroll</u> over 23.16769 Years from May 1, 2010:	212,472
3. Interest on (1) and (2):	42,224
4. Credit for Surplus:	0
5. Total Statutorily Required Contribution for Fiscal Year 2011: [(1) + (2) + (3) + (4)]	587,046
6. Active Member Contributions (9.91% of Salaries):	161,074
7. Net Statutorily Required City Contribution: [(5) - (6)]	425,972

**RECONCILIATION OF THE CHANGE
IN THE STATUTORILY REQUIRED CITY CONTRIBUTION**

1.	Statutorily Required Contribution for Year ending April 30, 2010:	\$477,105
2.	Increase in Normal Cost and Amortization Payment due to anticipated pay changes:	20,455
3.	Increase/(Decrease) in Normal Cost resulting from actual pay changes:	(7,605)
4.	Effect of Asset Smoothing:	721
5.	Increase/(Decrease) resulting from changes in assumptions:	0
6.	Increase/(Decrease) resulting from other demographic and financial sources (retirements, deaths, new entrants, salary changes, etc.):	(64,704)*
7.	Statutorily Required Contribution for Year ending April 30, 2011:	\$425,972

*Includes (61,831) resulting in change in methodology

DERIVATION OF EXPERIENCE GAIN(LOSS) AS OF MAY 1, 2010

1.	Unfunded Actuarial Accrued Liability at May 1, 2009:	\$3,385,992
2.	Normal Cost Due at May 1, 2009:	331,798
3.	Interest on (1) and (2) to May 1, 2010 (at 7.75% per year):	288,129
4.	Contributions made for the prior year with interest to May 1, 2010:	501,446
5.	Expected Unfunded Actuarial Accrued Liability at May 1, 2010 Before Assumption Changes [(1) + (2) + (3) - (4)]:	3,504,473
6.	Change in Unfunded Actuarial Accrued Liability due to Assumptions Change at May 1, 2010:	0
7.	Expected Unfunded Actuarial Accrued Liability at May 1, 2010 [(5) + (6)]:	3,504,473
8.	Actual Unfunded Actuarial Accrued Liability at May 1, 2010:	3,627,681
9.	Gain (Loss) for the prior Plan Year [(7) - (8)]:	\$ (123,208)

DERIVATION OF EXPERIENCE GAIN(LOSS) AS OF MAY 1, 2010

The experience gain (loss) reported above is the net result of the following:

1. FINANCIAL SOURCES

a) Investment experience (based upon market value of assets):	\$ 692,175
b) Contribution experience:	(166,857)
c) Benefit Payments experience:	26,857
d) Salary increases (greater)/lower than expected:	<u>72,647</u>
Total from Financial Sources:	624,822

2. DEMOGRAPHIC SOURCES

Mortality, retirement, disability, termination, etc.:	(183,552)
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3. ACTUARIAL ADJUSTMENTS

Market value adjustment for asset smoothing, including expenses	(564,478)
-----------------------------------------------------------------	-----------

4. GAIN (LOSS) ALL SOURCES

Total Gain (Loss) for the prior Plan Year [(1) + (2) + (3)]	\$ (123,208)
-------------------------------------------------------------	--------------

SUMMARY OF DEMOGRAPHIC INFORMATION AS OF MAY 1, 2010

	<u>Number</u>	<u>Projected Annual Salaries (Fiscal Year 2011)</u>
Active Police Officers:	30	\$1,625,368

	<u>Number</u>	<u>Total Monthly Benefits</u>
Normal Retirees:	17	\$ 50,587
Alternate Payees:	0	0
Survivors (Widows):	5	8,233
Survivors (Children):	0	0
Disabled Retirees:	0	0
Deferred Vested:	0	0
Terminated/Separated:	0	0 *

* Return of Contributions

The actuarial valuation was performed as of May 1, 2010 to determine contribution requirements for fiscal year 2011.

AGE AND SERVICE DISTRIBUTION

Attained Age	COMPLETED YEARS OF SERVICE										Average Salaries	
	0-1	2-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40+	Total	
15-19											0	-
20-24	1	3									4	39,011
25-29		5									5	42,780
30-34		3		1							4	46,601
35-39				3	1						4	56,575
40-44				2	3						5	60,530
45-49						2					2	66,431
50-54						2	2				4	65,113
55-59								1	1		2	73,370
60-64											0	-
65+											0	-
TOTAL	1	11	0	6	4	4	2	1	1	0	30	54,179

Age = 37.70 Years

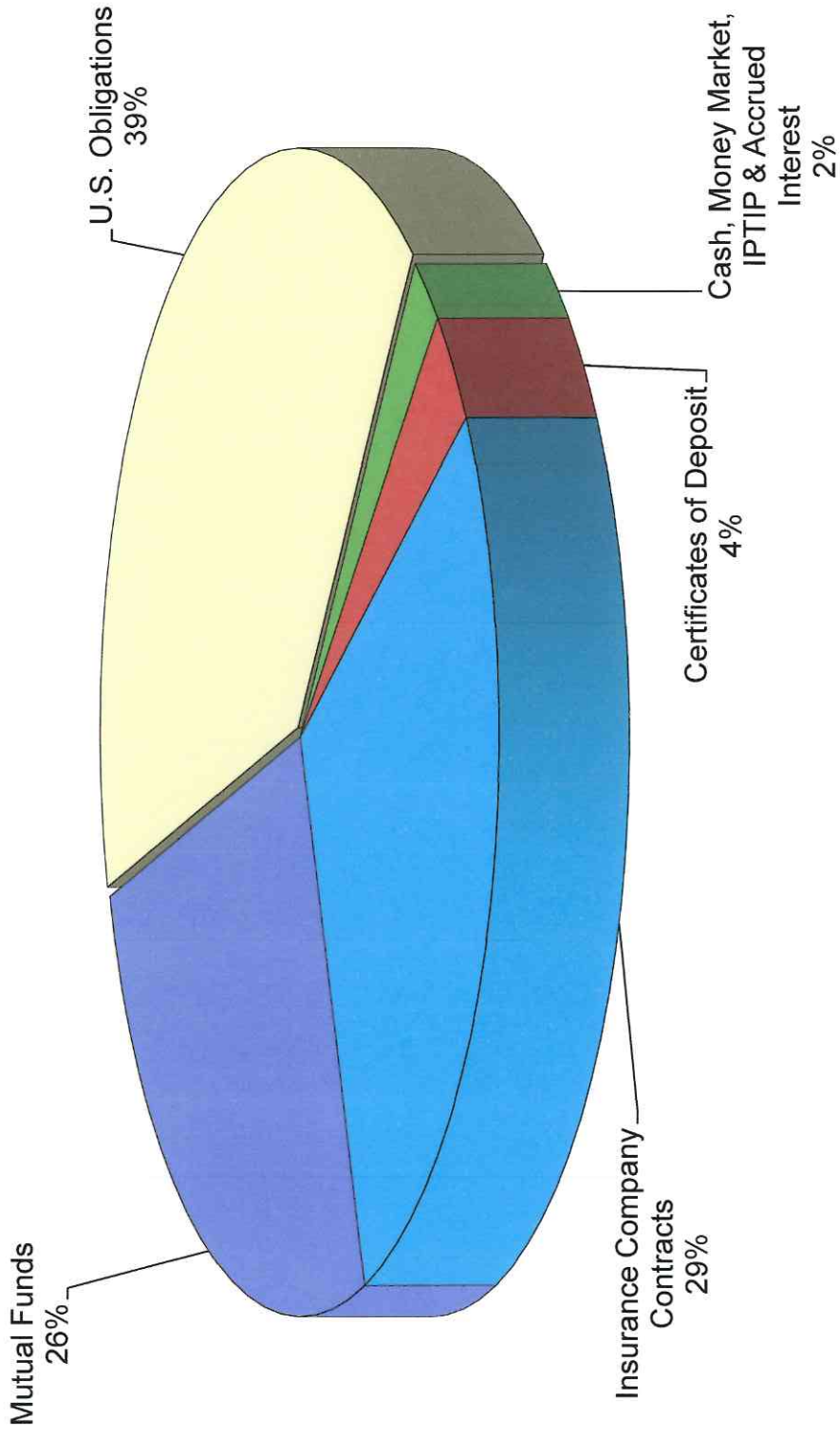
Service = 13.06 Years

ASSET INFORMATION

Cash, Money Market, IPTIP	\$225,239
Certificates of Deposit	376,943
State and Local Obligations	0
U.S. Government Obligations	4,159,277
Insurance Company Contract	3,071,651
Pooled Investment Accounts	0
Mutual Funds	2,739,434
Common & Preferred Stock	0
Taxes Receivable	0
Accrued Interest	24,715
Other Receivables	0
Net Liabilities	0
	<hr/>
Net Present Assets at Market Value	\$10,597,259

The chart on the following page shows the percentage of invested assets.

ASSET INFORMATION



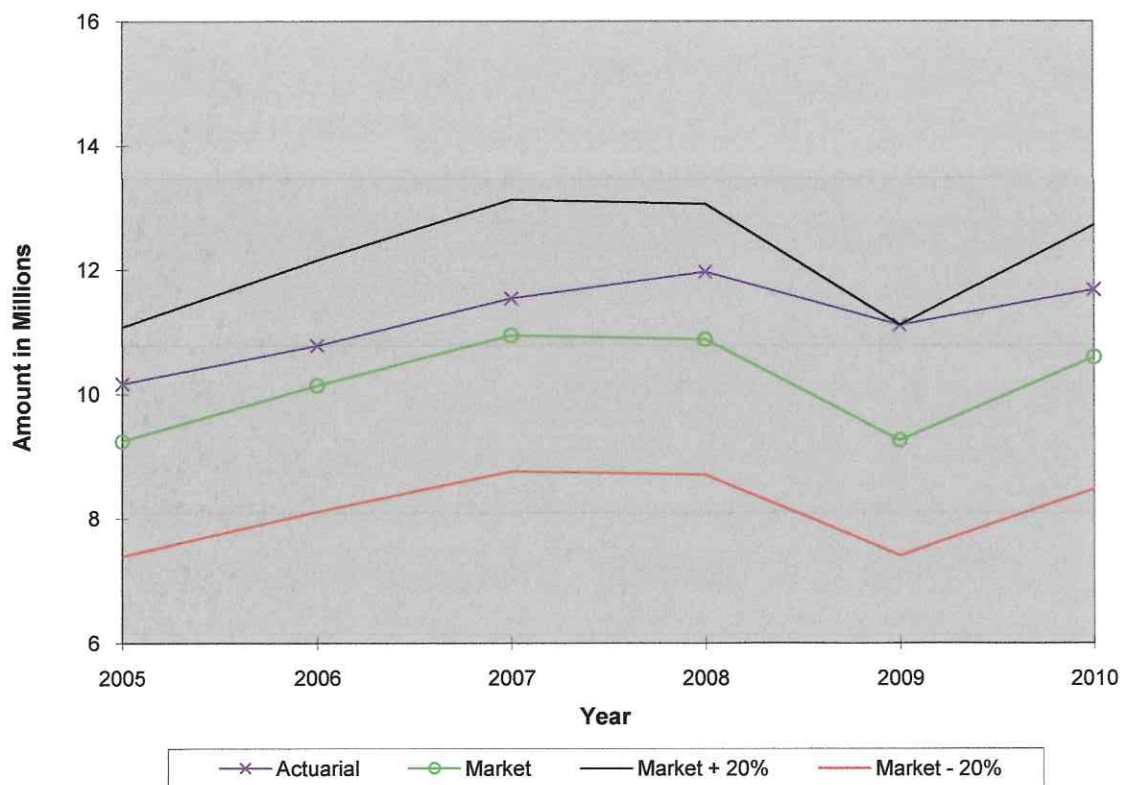
DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS

1.	Actuarial Value of Assets, May 1, 2009	\$11,113,057
2.	Contributions Received During 2009-2010	484,245
3.	Benefit Payments and Expenses Made During 2009-2010	754,252
4.	Assumed Interest at 7.75% on (1), (2) and (3)	851,671
5.	Preliminary Actuarial Value of Assets: [(1) + (2) - (3) + (4)]	11,694,721
6.	Market Value, May 1, 2010	10,597,259
7.	Preliminary Adjustment Account:	
	a) Amount: [(5) - (6)]	1,097,462
	b) Percentage: [(7a) ÷ (6) x 100%]	10.36%
8.	Final Adjustment Amount	
	a) Amount	1,085,159
	b) Percentage	10.24%
9.	Final Actuarial Value of Assets, May 1, 2010: [(6) + (8a)]	11,682,418
10.	Five-Year Adjustment Amount (Effective May 1, 2008-Next Adjustment May 1, 2013)	0
11.	Final Actuarial Value of Assets, May 1, 2010	\$ 11,682,418

ASSET HISTORY

<u>For the Year beginning May 1</u>	<u>Actuarial Value of Assets</u>	<u>Market Value of Assets</u>
2010	\$11,682,418	\$10,597,259
2009	11,113,057	9,260,881
2008	11,967,931	10,879,937
2007	11,537,623	10,942,076
2006	10,778,895	10,132,598
2005	10,159,721	9,236,110

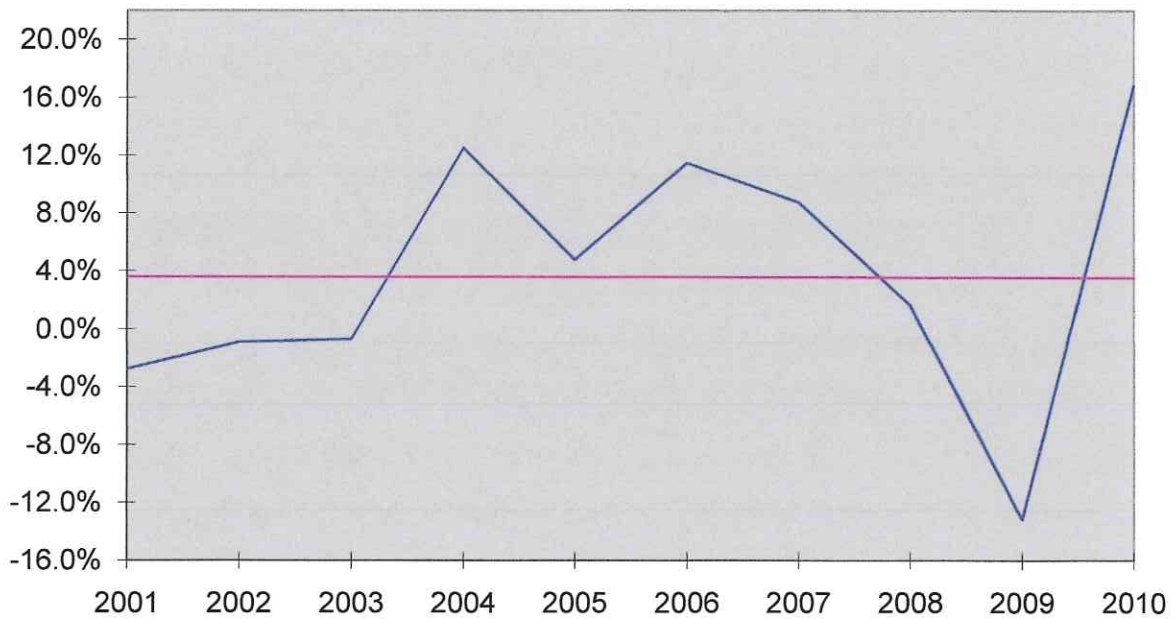
The chart below presents a comparison between the Actuarial Value of Assets and the Market Value of Assets for the current year and the five preceding years. The chart also illustrates the corridor 20% above and 20% below the Market Value of Assets.



ANALYSIS OF INVESTMENT RETURN

<u>Fiscal Year Ending April 30</u>	<u>Annual Rate of Return</u>
2010	16.84%
2009	-13.14
2008	1.66
2007	8.73
2006	11.45
2005	4.77
2004	12.50
2003	-0.07
2002	-0.91
2001	-2.79
<u>Composite</u>	
2001-2010	3.56%

The following chart presents a progression of these percentages in graphical form.



**SUMMARY OF RESULTS
EXHIBIT 5-D**

**CITY OF STERLING
POLICE PENSION FUND**

THIRTY - YEAR PROJECTION OF PAYMENTS

Year	Termination		Payouts from Active Group Upon		Disability	Payouts from		Total
	Lump Sum	Deferred Pension	Death	Retirement		Retired Group	Deferred Pensioners	
2010	8,014	0	5,218	64,460	6,295	705,856	0	789,843
2011	8,280	0	7,106	109,819	12,497	695,762	0	833,464
2012	8,396	0	7,243	163,222	18,844	688,667	0	886,372
2013	4,450	0	9,016	204,426	24,844	679,094	0	921,830
2014	3,527	0	11,241	260,355	30,603	668,700	0	974,426
2015	1,654	0	12,851	315,555	36,359	657,421	0	1,023,840
2016	0	0	14,686	381,499	42,349	645,196	0	1,083,730
2017	0	0	16,252	435,490	48,227	631,961	0	1,131,930
2018	0	0	18,141	472,709	54,122	617,717	0	1,162,689
2019	0	0	19,520	507,581	59,861	602,467	0	1,189,429
2020	0	0	21,215	551,667	65,637	586,271	0	1,224,790
2021	0	0	22,509	616,276	70,948	569,228	0	1,278,961
2022	0	0	24,161	689,203	76,470	551,358	0	1,341,192
2023	0	0	25,390	735,131	81,547	532,855	0	1,374,923
2024	0	0	26,969	771,667	87,504	513,793	0	1,399,933
2025	0	0	28,079	822,217	93,456	494,355	0	1,438,107
2026	0	0	29,465	861,982	100,261	474,648	0	1,466,356
2027	0	0	30,450	897,932	105,680	454,792	0	1,488,854
2028	0	0	31,622	948,006	110,265	434,795	0	1,524,688
2029	0	0	32,485	980,324	114,772	414,638	0	1,542,219
2030	0	0	33,486	1,033,645	120,485	394,273	0	1,581,889
2031	0	0	34,265	1,064,913	127,759	373,715	0	1,600,652
2032	0	0	35,015	1,114,481	135,779	352,978	0	1,638,253
2033	0	0	35,416	1,148,004	139,818	332,022	0	1,655,260
2034	0	0	35,977	1,184,001	143,613	310,778	0	1,674,369
2035	0	0	36,019	1,247,079	148,714	289,218	0	1,721,030
2036	0	0	36,363	1,301,298	151,568	267,337	0	1,756,566
2037	0	0	35,857	1,334,465	153,435	245,157	0	1,768,914
2038	0	0	35,870	1,353,390	158,121	222,829	0	1,770,210
2039	0	0	35,221	1,367,228	158,825	200,527	0	1,761,801

GASB STATEMENT NO. 25 DISCLOSURE INFORMATION

DEVELOPMENT OF THE ANNUAL REQUIRED CONTRIBUTION OF THE MUNICIPALITY

	Fiscal Year May 1, 2010 through <u>April 30, 2011</u>
1. Entry Age Normal Cost	\$332,350
2. Actuarial Accrued Liability	15,310,099
3. Actuarial Value of Assets	11,682,418
4. Unfunded Actuarial Accrued Liability	3,627,681
5. Minimum Payment to Amortize Unfunded Actuarial Accrued Liability Over 40 Years from Effective Date of Application of GASB 25 (27 years remaining)	200,584
6. Total Annual Required Contribution for Fiscal Year April 30, 2011: [(1) + (5)]	532,934
7. Active Member Contributions (9.91% of Salaries):	161,074
8. Annual Required Contribution (ARC) payable at the beginning of the current fiscal year: [(6) - (7)]	371,860

GASB STATEMENT NO. 25 DISCLOSURE INFORMATION
(Continued)

NOTES:

- The Annual Required Contribution as of May 1, 2010 has been determined under the Governmental Accounting Standards Board Statement No. 25 and is required disclosure for the fiscal year ending April 30, 2011. The Entry Age Normal Cost and the Actuarial Accrued Liability were determined using the Entry Age Normal Actuarial Cost Method.
- The Entry Age Normal Cost has been determined as a level percentage of projected payroll of the active members of the group. The amortization method for the Unfunded Actuarial Accrued Liability is determined as a level percentage of payroll amount over the closed Maximum Amortization Period as defined in Governmental Accounting Standards Board Statement No. 25.
- All values were determined on the basis of the actuarial assumptions and methods as more fully described in Appendix 2 of this report.

**ACTUARIAL ASSUMPTIONS
(Economic)**

Investment Return

7.75% per annum, compounded annually (net of expenses).

Salary Increases

Representative values of assumed salary increases are as follows:

<u>Age</u>	<u>Increase %</u>
25	4.8611
30	2.9848
35	2.0341
40	1.5239
45	1.3083
50	1.1846
55	1.1220

An additional inflation allowance of 2.50% per year is added to the above.

Payroll Growth

It was assumed that payroll will grow 4.50% per year.

Actuarial Asset Basis

A preliminary actuarial value of assets is calculated by accumulating the prior year's actuarial value with adjustments for contributions and benefit payments at the valuation interest rate. The market value is subtracted from the preliminary actuarial value. The difference, the preliminary adjustment account, is divided by the market value. Then using the following table, the final actuarial value of assets is calculated by adding the final adjustment account to the market value.

<u>Percentage of Market Value (Plus or Minus)</u>	
<u>Preliminary Adjustment Account</u>	<u>Final Adjustment Account</u>
0% to 10%	Preliminary adjustment account
10% to 20%	0% plus 1/3 of the excess over 10%
20% to 30%	16 2/3% plus 1/3 of the excess over 20%
Over 30%	20%

Effective May 1, 2013, a 5-year cumulative analysis of the actuarial value of assets will be made. If the final actuarial value differentiates by more than 10% (plus or minus) from the market value of assets, the final actuarial value of assets will be further adjusted to equal 90% or 110% of the market value of assets.

**ACTUARIAL ASSUMPTIONS
(Demographic)**

Mortality

Active Lives

RP-2000 Combined Healthy Mortality Table (male) with blue collar adjustment and with a 200% load for participants under age 50 and 125% for participants age 50 and over. Five percent (5%) of deaths amongst active police officers are assumed to be in the performance of their duty.

Non-Active Lives

RP-2000 Combined Healthy Mortality Table (male) with blue collar adjustment and with a 200% load for participants under age 50 and 125% for participants age 50 and over.

Termination

Illustrative rates of withdrawal from the plan for reasons other than death or disability are as follows:

<u>Age</u>	<u>Rate of Withdrawal</u>
25	.0734
30	.0416
35	.0223
40	.0119
45	.0102
50	---

It is assumed that terminated police officers will not be rehired.

Disability Rates

Incidence of disability amongst police officers eligible for disability benefits:

<u>Age</u>	<u>Rate</u>
25	.0013
30	.0026
35	.0044
40	.0071
45	.0108
50	.0159

15% of disabilities amongst active police officers are assumed to be in the performance of their duty.

**ACTUARIAL ASSUMPTIONS
(Demographic)**

Retirement Rates

Retirements are assumed to occur between the ages of 50 and 69 in accordance with the following table:

<u>Age</u>	<u>Rate of Retirement</u>	<u>Age</u>	<u>Rate of Retirement</u>
50	.36	60	.22
51	.22	61	.30
52	.18	62	.39
53	.19	63	.48
54	.19	64	.57
55	.20	65	.65
56	.20	66	.74
57	.20	67	.83
58	.21	68	.91
59	.21	69	1.00

Marital Status

85% of police officers are assumed to be married.

Spouse's Age

Wives are assumed to be 3 years younger than their husbands.

**ACTUARIAL ASSUMPTIONS
(Additional)**

Expenses

None assumed.

Actuarial Cost Method:

Entry Age Normal Cost

SUMMARY OF PRINCIPAL PLAN PROVISIONS

Definitions

Police Officer (3-106): Any person appointed to the police force and sworn and commissioned to perform police duties.

Persons excluded from Fund (3-109): Part-time officers, special police officer, night watchmen, traffic guards, clerks and civilian employees of the department. Also, police officers who fail to pay the required fund contributions or who elect the Self-Managed Plan option.

Creditable Service (3-110): Time served by a police officer, excluding furloughs in excess of 30 days, but including leaves of absences for illness or accident and periods of disability where no disability pension payments have been received and also including up to 3 years during which disability payments have been received provided contributions are made.

Pension (3-111)

Normal Pension Age

Age 50 with 20 or more years of creditable service.

Normal Pension Amount

50% of annual salary held in the year preceding retirement; or for persons terminating on or after July 1, 1987, the annual salary held on the last day of service, whichever is greater plus 2% of such annual salary for service in excess of 20 years (total maximum 20%), plus 1% of such annual salary for additional service in excess of 30 years (total maximum 5%); or for persons terminating on or after January 1, 1999, 50% of the greater of the annual salary held in the year preceding retirement or the annual salary held on the last day of service, plus 2½% of such annual salary for service from 20 to 30 year (maximum 25%)).

Minimum Monthly Benefit: \$1,000

Maximum Benefit Percentage: 75% of salary

Mandatory Retirement Pension Date

Mandatory retirement due to age by law with between 8 and 20 years of creditable service.

Mandatory Pension Amount

2½% of annual salary held in the year preceding retirement times years of creditable service, or for persons terminating on or after July 1, 1987, 2½% of annual salary held on the last day of service times years of credible service, whichever is greater.

SUMMARY OF PRINCIPAL PLAN PROVISIONS
(Continued)

Termination Retirement Pension Date

Separation of service (not mandatory) after completion of between 8 and 20 years of creditable service.

Termination Pension Amount

Commencing at age 60, 2½% of annual salary held in the year preceding termination times years of creditable service or refund of contributions, or for persons terminating on or after July 1, 1987, 2½% of annual salary held on the last day of service times years of credible service, whichever is greater.

Pension Increase

Non-Disabled

3% increase of the original pension amount after attainment of age 55 for each year elapsed since retirement, followed by an additional 3% of the original pension amount on each January thereafter. Effective July 1, 1993, 3% of the amount of pension payable at the time of the increase including increases previously granted, rather than 3% of the originally granted pension amount.

Disabled

3% increase of the original pension amount after attainment of age 60 for each year he or she received pension payments, followed by an additional 3% of the original pension amount in each January thereafter.

Pension to Survivors (3-112)

Death of Retired Member

100% of pension amount to surviving spouse (or dependent children).

Death While in Service (Not in line of duty)

With 20 years of creditable service, the pension amount earned as of the date of death.

With between 10 and 20 years of creditable service, 50% of the salary attached to the rank for the year prior to the date of death.

Death in Line of Duty

100% of the salary attached to the rank for the last day of service year prior to date of death.

Minimum Survivor Pension

\$1,000 per month to all surviving spouses.

SUMMARY OF PRINCIPAL PLAN PROVISIONS
(Continued)

Disability Pension - Line of Duty (3-114.1)

Eligibility

Suspension or retirement from police service due to sickness, accident or injury while on duty.

Pension

Greater of 65% of salary attached to rank at date of suspension or retirement and the retirement pension available. Minimum \$1,000 per month.

Disability Pension - Not on Duty (3-114.2)

Eligibility

Suspension or retirement from police service for any cause other than while on duty.

Pension

50% of salary attached to rank at date of suspension or retirement. Minimum \$1,000 per month.

Other Provisions

Marriage After Retirement (3-120)

No surviving spouse benefit available.

Refund (3-124)

At death prior to completion of 10 years of service, contributions are returned without interest to widow.

At termination with less than 20 years of service, contributions are refunded upon request.

Contributions by Police Officers (3-125.1)

Beginning January 1, 2001, 9.91% of salary including longevity, but excluding overtime pay, holiday pay, bonus pay, merit pay or other cash benefit.

GLOSSARY

Actuarial Accrued Liability

See *Entry Age Normal Cost Method*

Actuarial Assumptions

The economic and demographic predictions used to estimate the present value of the plan's future obligations. They include estimates of investment earnings, salary increases, mortality, withdrawal and other related items. The *Actuarial Assumptions* are used in connection with the *Actuarial Cost Method* to allocate plan costs over the working lifetimes of plan participants.

Actuarial Cost Method

The method used to allocate the projected obligations of the plan over the working lifetimes of the plan participants. Also referred to as an *Actuarial Funding Method*.

Actuarial Funding Method

See *Actuarial Cost Method*

Actuarial Gain (Loss)

The excess of the actual *Unfunded Actuarial Accrued Liability* over the expected *Unfunded Actuarial Accrued Liability* represents an *Actuarial Loss*. If the expected *Unfunded Actuarial Accrued Liability* is greater, an *Actuarial Gain* has occurred.

Actuarial Present Value

The value of an amount or series of amounts payable or receivable at various times, determined as of a given date by the application of a particular set of *Actuarial Assumptions*.

Actuarial Value of Assets

The asset value derived by using the plan's *Asset Valuation Method*.

Asset Valuation Method

A valuation method designed to smooth random fluctuations in asset values. The objective underlying the use of an asset valuation method is to provide for the long-term stability of employer contributions.

Employee Retirement Income Security Act of 1974 (ERISA)

The primary federal legislative act establishing funding, participation, vesting, benefit accrual, reporting, and disclosure standards for pension and welfare plans.

**GLOSSARY
(Continued)**

Entry Age Normal Cost Method

One of the standard actuarial funding methods in which the *Present Value of Projected Plan Benefits* of each individual included in the *Actuarial Valuation* is allocated on a level basis over the earnings of the individual between entry age and assumed exit age(s). The portion of this *Actuarial Present Value* allocated to a valuation year is called the *Normal Cost*. The portion of this *Actuarial Present Value* not provided for at a valuation date by the *Actuarial Present Value* of future *Normal Costs* is called the *Actuarial Accrued Liability*.

Normal Cost

The portion of the *Present Value of Projected Plan Benefits* that is allocated to a particular plan year by the *Actuarial Cost Method*. See *Entry Age Normal Cost Method* for a description of the Normal Cost under the *Entry Age Normal Cost Method*.

Present Value of Future Normal Costs

The present value of future normal costs determined based on the *Actuarial Cost Method* for the plan. Under the *Entry Age Normal Cost Method*, this amount is equal to the excess of the *Present Value of Projected Plan Benefits* over the sum of the *Actuarial Value of Assets* and *Unfunded Actuarial Accrued Liability*.

Present Value of Projected Plan Benefits

The present value of future plan benefits reflecting projected credited service and salaries. The present value is determined based on the plan's actuarial assumptions.

Statement No. 25 of the Governmental Accounting Standards Board (GASB No. 25)

The accounting statement that established the standards of financial accounting and reporting for the financial statements of defined benefit pension plans.

Unfunded Actuarial Accrued Liability

The excess of the *Actuarial Accrued Liability* over the *Actuarial Value of Assets*.